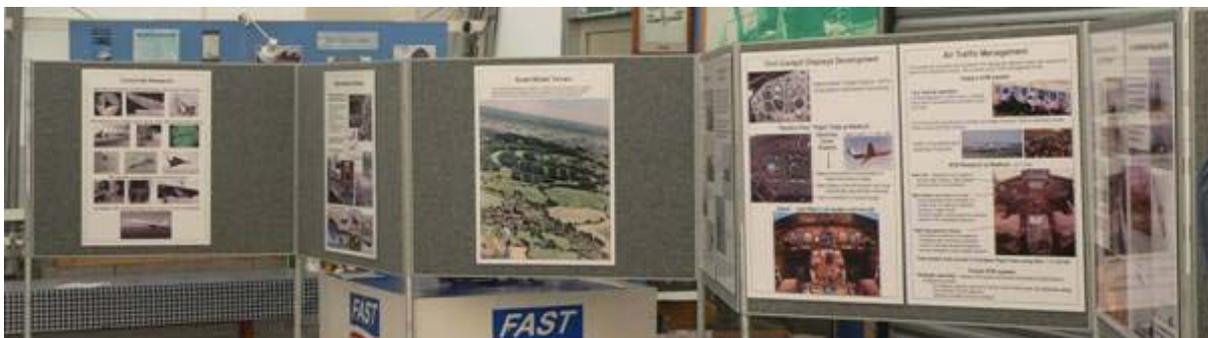


Bedford Exhibition at Farnborough
mounted an exhibition at the Farnborough



Following an invitation extended at the 2015 FASTA AGM, BAHG has Air Sciences Trust Museum Farnborough illustrating some of the work and achievements of RAE Bedford, the largest of the Royal Aircraft Establishment's "outstations". The display, on show in the Cody Pavilion (photo left) from Saturday 29 October 2016 until January 2017, presents some of the major areas of Bedford's research (photo below). Our aim is to inform visitors that, while Farnborough was the headquarters of the Royal Aircraft Establishment (and its successor organisations), there were also several other sites, the largest of which, at Bedford, made up about 20% of the whole RAE and was RAE's main location for experimental aerodynamic research and flight testing. Created after World War 2 as part of government policy to foster the British aircraft industry, the Bedford establishment was initially conceived as an independent national centre for aeronautical research, but was integrated into the full RAE by the time of its official opening in 1957. On 27 June 2017, therefore, we will celebrate 60 official years of RAE Bedford, although research had been in progress since 1952.



The display material is similar to what we used recently at Shuttleworth, and can be viewed at FAST at weekends when the museum is open. Anyone in the area is invited to visit.

Tornado Drop Model USA The pictures of the Tornado drop model at NASA Dryden, parked in front of the Space Shuttle "Enterprise", published in the last newsletter elicited a number of responses. Initially, there was some debate about the model's true identity, but in the end we agreed it was a Tornado model. The competitor was a HIRM (High Incidence Research Model) that was also taken to the USA for drop tests. Thanks to correspondents Geoff Butler, Nigel Culliford and others for help on this.

Short SC1 XG900 & XG905 – Identical, or Not? As we work in the archive, and try to catalogue some of the pictures, especially loose prints with no identification, we always try to identify individual aircraft by tail number. This is not always easy. A particular case recently related to the two Short SC1 research aircraft, XG900 and XG905. We had several pictures where the tail number was not visible so we tried to identify the aircraft by external features. As they started out being nearly identical, early photos pose a particular challenge. Detailed examination revealed some unexpected differences between the two aircraft, that some of us had not been aware of. Both aircraft came to Bedford in 1960, having first flown in 1957 (XG900) and 1958 (XG905). There is a classic picture from 1960 (see below) of SC1 XG905 with the Flying Bedstead by a Bedford hangar.



This picture of SC1 XG905 with the Flying Bedstead shows 905 still with the small nose puffer blister (neg C5536, Aug 1960)



Our earliest picture of SC1 XG905 in the hover, Nov 1962 (neg C7501)



One of the earliest pictures, May 1963, showing SC1 XG900 on the first VTOL platform, with ground crew (neg B545)

Web Site www.bahg.org.uk

Key features to help distinguish the two aircraft are the front pod blister housing the pitch-yaw air-jet control nozzle (on 905 extended in 1963 to accommodate an Ampex magnetic tape data recorder), the label "Short SC1" on the port side below the cockpit (it's further forward on 905), and the additional "chin" or "cheek" window below the coaming on 905. This was introduced to recover the pilot's visibility lost after the canopy line was raised in XG905 to strengthen it after the accident (see below).



Short SC1 XG900 in circuit (neg B2496H), with "Short SC1" label further back.



Short SC1 XG905 in the hover Nov 1962, with small nose pod fairing and "Short SC1" label well forward.

NOTE tail number can be verified on high resolution picture (neg C7501)



SC1 XG900 in the circuit, Oct 1968 (neg B2496H)



SC1 XG905 on the apron May 1971 (neg B2984). Note nose pod, the smaller front windscreen canopy, and new "cheek" window, but no "Short SC1" label.

XG905 returned to Short Bros Belfast in 1962 for its first upgrade, to be fitted with an advanced triplex autostabiliser using a set of attitude gyros which measured pitch and roll attitude angles directly. It was during the flight testing of this upgrade at Short Bros that the aircraft crashed on 2 October 1963 due to a loss of control, killing the Short's test pilot J R Green. The aircraft accident investigation which reported in 1964 established the probable cause of the crash as the failure of the attitude gyros to cage in roll when the pilot changed the autostabiliser control mode in flight.

A three-year delay followed, rebuilding the aircraft for further research work. XG905 became resident again at RAE Bedford from mid-1967, initially flown by Sqn Ldr Millward. XG905 features in one of the rare photos (see picture, right, neg B2415) of the two SC1 airborne together at Bedford in May 1968. With further mods to support the Civil VTOL automatic recovery and landing programme, XG905 continued its research, but the next individual picture of XG905 does not occur until January 1969. Of course, after May 1971, when XG900 was taken by road to the Science Museum, there can be no confusion, as only XG905 was left at Bedford. Finally, XG905 departed Bedford after its last flights on 3 May 1973 by Sqn Ldr Rustin and Fl Lt Ledwidge.



This study of the SC1's changes has been an interesting detective story; all comments welcome. A more detailed timeline is needed.

Wind Tunnels We have received some help in our efforts to establish some key dates relating to the closure of the wind tunnels that were still operating at Bedford in the 1990s, namely the 13x9 low speed tunnel, the 8ft supersonic tunnel and the 3x4 HSST. More information is still welcome.

Talks A number of requests to give talks about RAE Bedford in 2017 have already been received. More details will be given later.

A Happy Christmas to all

Bedford Aeronautical Heritage Group

Don't forget, to contact us with any news or comments, please email (bahg-bt@hotmail.co.uk).